

## **CLAIMS**

**1. (Currently Amended)**      A method comprising:

collecting, on a computer maintained within a vehicle, data from a plurality of systems of the vehicle, wherein the plurality of systems comprises:

an onboard diagnostics system for generating vehicle diagnostics codes ~~when problems occurs with an engine of the vehicle~~, wherein each vehicle diagnostics code comprises a set of cryptic symbols corresponding to a vehicle condition; and at least one of a vehicle security system, an obstacle detection system, a vehicle media system, a vehicle environment system, or a vehicle sound system, wherein each vehicle system is connected to the computer by a respective interface;

generating, on the computer, an explanation of a vehicle condition based on, a vehicle diagnostics code which has been generated by the onboard diagnostics system, wherein the explanation combines data collected from the diagnostics system with data collected from at least one other vehicle system, and wherein the generating operation comprises retrieving both a textual explanation of the vehicle diagnostics code and a graphical illustration of a component associated with the vehicle diagnostics code which can be displayed within the vehicle to provide a user-friendly representation of the vehicle condition corresponding to the vehicle diagnostics code;

generating a browsable network document in a markup language which includes the user-friendly representation of the vehicle condition corresponding to the vehicle diagnostics code; and

transmitting the browsable network document from the vehicle to a remote client over a network, where the user-friendly representation of vehicle condition can be browsed, wherein the browsable network document includes an entry field to allow the remote client to enter a request for data from the vehicle.

**2. (Canceled)**

**3. (Canceled)**

**4. (Original)** A method as recited in claim 1 further comprising generating supplemental information related to the vehicle diagnostics code.

**5. (Original)** A method as recited in claim 4 wherein the generating supplemental information operation comprises retrieving an estimated price for repairing a condition related to the vehicle diagnostics code.

**6. (Original)** A method as recited in claim 4 wherein the generating supplemental information operation comprises retrieving a location of a vehicle dealership.

**7. (Original)** A method as recited in claim 1 further comprising presenting the explanation at a client computer.

**8. (Original)** A method as recited in claim 7 wherein the presenting operation comprises presenting the explanation at a local, vehicle-based client.

**9. (Original)** A method as recited in claim 7 wherein the presenting operation comprises presenting the explanation at a remote client.

**10. (Original)** A method as recited in claim 1 further comprising storing an updated explanation of the vehicle condition in a memory.

**11. (Previously Presented)** A method as recited in claim 1 wherein the remote client is a repair facility.

**12. (Currently Amended)** A computer-readable medium having stored thereon a computer program having executable instructions for performing a process comprising:

collecting, on a computer maintained within a vehicle, data from a plurality of systems of the vehicle; wherein the plurality of systems comprises:

an onboard diagnostics system for generating vehicle diagnostics codes ~~when problems occurs with an engine of the vehicle~~, wherein each vehicle diagnostics code comprises a set of cryptic symbols corresponding to a vehicle condition; and

at least one of a vehicle security system, an obstacle detection system, a vehicle media system, a vehicle environment system, or a vehicle sound system;  
and

generating on the computer an explanation of a vehicle condition based on a vehicle diagnostics code which has been generated by the onboard diagnostics system, wherein the explanation combines data collected from the onboard diagnostics system with data collected from at least one other vehicle system to produce a severity ranking of the vehicle condition which is based at least in part on the data collected from the at least one other vehicle system, and wherein the generating operation comprises retrieving both a textual explanation of the vehicle diagnostics code and a graphical illustration of a component associated with the vehicle diagnostics code which can be displayed within the vehicle to provide a user-friendly representation of the vehicle condition corresponding to the vehicle diagnostics code;

generating a browsable network document in a markup language which includes the user-friendly representation of the vehicle condition corresponding to the vehicle diagnostics code; and

transmitting the browsable network document from the vehicle to a remote client over a network, where the user-friendly representation of vehicle condition can be browsed, wherein the browsable network document includes an entry field to allow the remote client to enter a request for data from the vehicle.

### 13. (Canceled)

**14. (Canceled)**

**15. (Original)** A computer-readable medium as recited in claim 12, the process further comprising generating supplemental information related to the vehicle diagnostics code.

**16. (Original)** A computer-readable medium as recited in claim 15 wherein the generating supplemental information operation comprises generating an estimated price for repairing a condition related to the vehicle diagnostics code.

**17. (Original)** A computer-readable medium as recited in claim 15 wherein the generating supplemental information operation comprises generating a location of a vehicle dealership.

**18. (Previously Presented)** A computer-readable medium as recited in claim 12, the process further comprising presenting the explanation at a client computer.

**19. (Previously Presented)** A computer-readable medium as recited in claim 18 wherein the presenting operation comprises presenting the explanation at a local, vehicle-based client

**20. (Canceled)**

**21. (Previously Presented)** A computer-readable medium as recited in claim 12, the process further comprising updating the explanation of the vehicle diagnostics code.

**22. (Previously Presented)** A computer-readable medium as recited in claim 12, the process further comprising:

transmitting the vehicle diagnostic code to a remote computer;

looking up the explanation in an explanations store in operable communication with the remote computer, the explanations store having one or more explanations associated with one or more associated diagnostic codes.

**23. (Currently Amended)** A vehicle comprising:

an onboard diagnostics system for generating vehicle diagnostics codes ~~when problems occurs with an engine of the vehicle~~, wherein each vehicle diagnostics code comprises a set of cryptic symbols corresponding to a vehicle condition;

one or more other vehicle systems; and

a host computer communicatively coupled to the vehicle diagnostics system and the one or more other systems via respective interfaces, wherein the computer is configured to:

collect data from a plurality of said vehicle systems;

generate a deciphered explanation of a vehicle diagnostics code, wherein the deciphered explanation contains a textual explanation of the vehicle diagnostics code and a graphical illustration of a component associated with the vehicle diagnostics code which can be displayed within the vehicle to provide a user-friendly representation of a vehicle condition corresponding to the vehicle diagnostics code;

generate a browsable network document in a markup language which includes the user-friendly representation of the vehicle condition corresponding to the vehicle diagnostics code; and

transmit the browsable network document from the vehicle to a remote client over a network, where the user-friendly representation of vehicle condition can be browsed, wherein the browsable network document includes an entry field to allow the remote client to enter a request for data from the vehicle.

**24. (Canceled)**

**25. (Canceled)**

**26. (Previously Presented)** A vehicle as recited in claim 23, wherein the host computer is further operable to generate supplemental information related to the vehicle diagnostics code.

**27. (Original)** A vehicle as recited in claim 26, wherein the supplemental information comprises an estimated price for repairing a condition related to the vehicle diagnostics code.

**28. (Original)** A vehicle as recited in claim 26 wherein the supplemental information comprises a location of a vehicle dealership.

**29. (Original)** A vehicle as recited in claim 23 further comprising a display device presenting the deciphered explanation.

**30. (Original)** A vehicle as recited in claim 23, further comprising an audio output device presenting an audio version of the deciphered explanation.

**31. (Previously Presented)** A vehicle as recited in claim 29, wherein the remote client is a repair facility.



**32. (Previously Presented)** A vehicle as recited in claim 23, wherein the host computer comprises an updateable repository of one or more deciphered explanations associated with one or more vehicle diagnostics codes.

**33. (Currently Amended)** A vehicle-based system comprising:

- a diagnostics receiver module for receiving a vehicle diagnostics code from an onboard vehicle diagnostics system, the vehicle diagnostics code including a set of cryptic symbols and corresponding to a vehicle condition;
- one or more interfaces corresponding to one or more other vehicle systems and configured to receive vehicle systems data from a respective vehicle system;
- means for generating an explanation of the vehicle condition based on the vehicle diagnostics code, wherein the explanation combines data received from the vehicle diagnostics system and at least one said other vehicle system, wherein the explanation contains a textual explanation of the vehicle condition and a graphical illustration of a component associated with the vehicle condition which can be displayed within the vehicle to provide a user-friendly representation of the vehicle condition corresponding to the vehicle diagnostics code;
- means for generating a browsable network document in a markup language which includes the user-friendly representation of the vehicle condition based on the vehicle diagnostics code; and
- means for transmitting the browsable network document from the vehicle to a remote client over a network, where the user-friendly representation of vehicle condition

can be browsed, wherein the browsable network document includes an entry field to allow the remote client to enter a request for data from the vehicle.

**34. (Original)** A vehicle-based system as recited in claim 33 wherein the means for generating comprises a computer-readable memory storing a diagnostics information registry having a field storing a reference to the explanation.

**35. (Original)** A vehicle-based system as recited in claim 33 wherein the means for generating comprises a memory storing explanations of one or more predetermined vehicle diagnostics codes.

**36. (Original)** A vehicle-based system as recited in claim 35 wherein the memory stores one or more of a graphical explanation, a textual explanation, and an audio explanation.

**37. (Original)** A vehicle-based system as recited in claim 33 further comprising a network communications module communicating the explanation over a network.

**38. (Original)** A vehicle-based system as recited in claim 33 further comprising a media output device presenting the explanation.

**39. (Original)** A vehicle-based system as recited in claim 38 wherein the media output device comprises audio speakers outputting an audio explanation.

**40. (Original)** A vehicle-based system as recited in claim 34 further comprising an update module updating information in the diagnostics information registry.

**41. (Currently Amended)** A vehicle-based system as recited in claim 34 wherein the diagnostics information registry comprises:

a severity field storing a severity level associated with the vehicle condition;

a component field storing a component identifier associated with the vehicle condition;

a type field storing a diagnostics code type associated with the vehicle diagnostics code;

an automatic field storing an indicator indicating whether to automatically present the explanation;

a [[an]] graphics field storing an indicator indicating whether to present graphics data included in the explanation.

**42. (Original)** A vehicle-based system as recited in claim 33 wherein the vehicle diagnostics code is an onboard diagnostics II (OBDII) code.

**43. (Currently Amended)** A method comprising:

receiving, on a vehicle based computer, a vehicle diagnostics code from an onboard vehicle diagnostics system, the onboard vehicle diagnostics code including a set of one or more cryptic symbols and corresponding to a vehicle condition;

receiving vehicle systems data from one or more of a vehicle security systems, an obstacle detection systems, a vehicle media systems, a vehicle environment systems, or a vehicle sound systems; and

retrieving an explanation of the vehicle condition based on the vehicle diagnostics code; wherein the explanation combines data from the onboard vehicle diagnostics system and at least one said other vehicle system to produce a severity ranking of the vehicle condition which is based at least in part on the vehicle systems data received, and wherein the retrieving operation comprises retrieving both a textual explanation of the vehicle diagnostics code and a graphical illustration of a component associated with the vehicle diagnostics code which can be displayed within the vehicle to provide a user-friendly representation of a vehicle condition corresponding to the vehicle diagnostics code;

generating a browsable network document in a markup language which includes the user-friendly representation of the vehicle condition corresponding to the vehicle diagnostics code; and

transmitting the browsable network document from the vehicle to a remote client over a network where the user-friendly representation of vehicle condition can be browsed, wherein the browsable network document includes an entry field to allow the remote client to enter a request for data from the vehicle.

**44. (Original)** A method as recited in claim 43 wherein the retrieving operation comprises accessing a memory location storing an updateable explanation.

**45. (Original)** A method as recited in claim 44 further comprising updating the explanation.

**46. (Original)** A method as recited in claim 43 further comprising presenting the explanation automatically in response to receiving the vehicle diagnostics code.

**47. (Original)** A method as recited in claim 43 further comprising presenting the explanation in response to a request from a user.

**48. (Canceled)**

**49. (Currently Amended)** A computer-readable medium having stored thereon a computer program having executable instructions for performing a process comprising:

collecting, on a computer maintained within a vehicle, data from a plurality of systems of the vehicle; wherein the plurality of systems comprises:

a diagnostics system providing one or more vehicle diagnostic codes; and

at least one of a vehicle security system, an obstacle detection system, a vehicle media system, a vehicle environment system, or a vehicle sound system; and

generating an explanation of at least one said vehicle diagnostic code, wherein the explanation combines data collected from the diagnostics system with data collected from at least one other vehicle system to produce a severity ranking of the vehicle condition which is based at least in part on the data collected from the at least one other vehicle system;

generating a browsable network document in a markup language which includes vehicle system data which has been collected and the explanation of the vehicle condition; and

transmitting the browsable network document from the vehicle to a remote client where vehicle system data and the explanation of the vehicle condition can be browsed, wherein the browsable network document includes an entry field to allow the remote client to enter a request for data from the vehicle.